

Amendments to the Claims:

The following lists all claims and their status:

1-4428. (cancelled)

4429. (currently amended): A mixture produced from ~~a portion of~~ a hydrocarbon containing formation, comprising:

non-condensable hydrocarbons and H_2 , wherein greater than about 10% by volume at 25 °C and one atmosphere absolute pressure of the non-condensable hydrocarbons and H_2 comprises H_2 ;

ammonia and water, wherein greater than about 0.5 % by weight of the mixture comprises ammonia; and

condensable hydrocarbons.

4430. (currently amended): The mixture of claim 4429, wherein the non-condensable hydrocarbons further comprise hydrocarbons having carbon numbers of less than 5, and wherein a weight ratio of the hydrocarbons having carbon numbers from 2 through 4 to ~~methane~~, methane in the mixture is greater than approximately 1.

4431. (original): The mixture of claim 4429, wherein greater than about 0.1 % by weight of the condensable hydrocarbons are olefins, and wherein less than about 15 % by weight of the condensable hydrocarbons are olefins.

4432. (original): The mixture of claim 4429, wherein the non-condensable hydrocarbons further comprise ethene and ethane, wherein a molar ratio of ethene to ethane in the non-condensable hydrocarbons is greater than about 0.001, and wherein a molar ratio of ethene to ethane in the non-condensable hydrocarbons is less than about 0.15.

4433. (original): The mixture of claim 4429, wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is nitrogen.

4434. (original): The mixture of claim 4429, wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is oxygen.

4435. (original): The mixture of claim 4429, wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is sulfur.

4436. (original): The mixture of claim 4429, wherein about 5 % by weight to about 30 % by weight of the condensable hydrocarbons comprise oxygen containing compounds, and wherein the oxygen containing compounds comprise phenols.

4437. (original): The mixture of claim 4429, wherein greater than about 20 % by weight of the condensable hydrocarbons are aromatic compounds.

4438. (original): The mixture of claim 4429, wherein less than about 5 % by weight of the condensable hydrocarbons comprises multi-ring aromatics with more than two rings.

4439. (original): The mixture of claim 4429, wherein less than about 0.3 % by weight of the condensable hydrocarbons are asphaltenes.

4440. (original): The mixture of claim 4429, wherein about 5 % by weight to about 30 % by weight of the condensable hydrocarbons are cycloalkanes.

4441. (currently amended): The mixture of claim 4429, wherein the H₂ is less than about 80 % by volume at 25 °C and one atmosphere absolute pressure of the non-condensable hydrocarbons and H₂.

4442. (original): The mixture of claim 4429, wherein the condensable hydrocarbons further comprise sulfur containing compounds.

4443. (original): The mixture of claim 4429, wherein the ammonia is used to produce fertilizer.

4444. (original): The mixture of claim 4429, wherein less than about 5% of the condensable hydrocarbons have carbon numbers greater than 25.

4445. (currently amended): The mixture of claim 4429, wherein the condensable hydrocarbons comprise olefins, wherein greater than ~~about~~ about 0.001 % by weight of the condensable hydrocarbons comprise olefins, and wherein less than about 15% by weight of the condensable hydrocarbons comprise olefins.

4446. (currently amended): The mixture of claim 4429, wherein the condensable hydrocarbons comprise olefins, wherein greater than ~~about~~ about 0.001 % by weight of the condensable hydrocarbons comprise olefins, and wherein less than about 10% by weight of the condensable hydrocarbons comprise olefins.

4447. (original): The mixture of claim 4429, wherein the condensable hydrocarbons comprise oxygenated hydrocarbons, and wherein greater than about 1.5 % by weight of the condensable hydrocarbons comprises oxygenated hydrocarbons.

4448. (original): The mixture of claim 4429, wherein the condensable hydrocarbons further comprise nitrogen containing compounds.

4449-5395. (cancelled)

5396. (new): A mixture produced from a hydrocarbon containing formation, comprising:

a non-condensable component comprising hydrocarbons and H_2 , wherein the H_2 is less than about 80 % by volume at 25 °C and one atmosphere absolute pressure of the non-condensable component;

ammonia and water, wherein greater than about 0.5 % by weight of the mixture comprises ammonia; and

condensable hydrocarbons.

5397. (new): The mixture of claim 5396, wherein the non-condensable component comprises hydrocarbons having carbon numbers of less than 5, and wherein a weight ratio of the hydrocarbons having carbon numbers from 2 through 4 to methane in the mixture is greater than approximately 1.

5398. (new): The mixture of claim 5396, wherein greater than about 0.1 % by weight and less than about 15 % by weight of the condensable hydrocarbons are olefins.

5399. (new): The mixture of claim 5396, wherein at least a portion of the ammonia is used to produce fertilizer.

5400. (new): The mixture of claim 5396, wherein the non-condensable component comprises ethene and ethane, wherein a molar ratio of ethene to ethane in the non-condensable component is greater than about 0.001, and wherein a molar ratio of ethene to ethane in the non-condensable component is less than about 0.15.

5401. (new): A mixture produced from a hydrocarbon containing formation, comprising:

ammonia and water, wherein greater than about 0.5 % by weight of the mixture comprises ammonia; and

condensable hydrocarbons, wherein less than about 0.3% of the condensable hydrocarbons comprise asphaltenes.

5402. (new): The mixture of claim 5401, wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is nitrogen.

5403. (new): The mixture of claim 5401, wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is oxygen.

5404. (new): The mixture of claim 5401, wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is sulfur.

5405. (new): The mixture of claim 5401, wherein at least a portion of the ammonia is used to produce fertilizer.